and the surface of the liquid in the syphon, which prevents the fluid ever coming in contact with the finger. Though apparently a trifling invention, its importance and comfort will be fully appreciated in the chamber of the invalid.

No. XXII.

ROBSON'S PATENT SIGNAL-LIGHTS.

By the Secretary.

These lights are especially useful for night-signals at sea, but they are equally applicable in many other cases, as will be afterwards explained. The principal advantages which they possess over other signal-lights hitherto used is the extreme simplicity of the mode of ignition, together with very great safety and more perfect combustion, as little or no dross falls from them while burning. Another important feature of the invention is, that these lights may be so varied as to produce a complete code of signals.

Another advantage is that, from the nature of the composition, they cannot possibly absorb moisture, even although kept in a damp place.

The lights are of different colours, viz. white, red, and green; there are also projectile lights, and rockets may be fired on the same principle.

The manner in which ignition is produced is by means of a small glass globule of sulphuric acid, placed in an aperture in the handle of the light, and immediately above which is placed a small cake of oxymuriate of potash, divided from the globule by means of a tin slide, and in the aperture is fitted a wooden screw.

When required for use, the tin slide must be withdrawn, and the screw turned, so as to break the glass globule, and bring the acid and oxymuriate of potash into contact, the fire then runs to the top of the charge by means of a quick-match carried through the centre.

The time these lights may be made to burn varies with their length; a three-inch light will burn two minutes, and its cost is one shilling.

The quick-match ordinarily used is lamp-cotton soaked in gunpowder, which is liable to the objection of absorbing moisture from the atmosphere. In the quick-match used by Mr. Robson this defect is entirely obviated, and at the same time, when inclosed in a tube, causes the ignition to be almost instantaneous.

The mode of practically applying these lights to a universal system of numeral signals, as proposed by Mr. Whishaw, is as follows. No. 1 is shewn by moving, either by hand or a frame of wood, the white light up and down in a vertical direction; 2, by moving the same light in a horizontal direction; 3, by moving the same light in the form of a semicircle, backwards and forwards; 4, by moving the red light in a vertical direction as before; 5, in a horizontal direction; 6, in a semicircular; 7, the green light in a vertical position; 8, in a horizontal position; 9, in a semicircular direction; and 0, by moving either of the lights in a circle. Thus a complete communication may be effected between ships at sea, between the men at the different fire-brigade stations of the metropolis, for general telegraphic purposes, &c. To give notice, a projectile light is used, from which various balls are thrown up a considerable height above the operator; and, for particular signals, cases containing the three colours are used.